

## Oversize, overwhelmed? Caring for Maps and Architectural Drawings in Your Collection

### *Trailing Questions and Answers*

**HELEN WIRKA [Madison, WI]:** *Hi! Will you be discussing re-formatting in more detail? YES*

**HELEN WIRKA [Madison, WI]:** *Does re-formatting mean to digitize paper documents?*

Yes, but it can also mean changing the format to another analog format, like film, or a paper preservation copy. Most commonly you will hear the word reformatting used for oversize materials to mean digitizing.

**Frank Lopez [Palm Springs CA]:** *What's the best way to remove sticky residue left on arch drawings from masking tape which has melted due to storage conditions?*

Try a crepe eraser, but be careful it is easy to tear paper when using one.

**Berlin Loa [San Luis Obispo, CA]:** *@Frank Lopez– We've used a heat spatula to gently remove tape; perhaps you can cover the "gunk" with paper and then use heated spatula to lift the gunk onto the paper?*

**Dan VanDeSteege [Grand Rapids, MI]:** *Is buffered interleaving recommended for iron gall or acidic papers?*

Buffered interleaving paper is recommended for both iron gall and acidic papers.

**Susan Laudicina [Bethesda, Maryland]:** *How many years can I safely store a map or lithograph in glassine sheets? 3 years or 5 years?*

The archival nature of glassine is disputed among conservators. You are probably better off to use acid free, lignin free folder stock for housing, and an acid free, lignin free tissue or paper to interleave if necessary.

**Helen Taylor [Lansing, Michigan]:** *Is Mylar® encapsulation good or bad for maps?*

Always leave a breathing space.

The answer is "it depends. Encapsulation increases labor and material costs as well as increasing space needs. That said, heavily used maps always benefit from increased housing. Usually encapsulation is only done for treated items, it is best not to encapsulate untreated items unless you leave an open side or corner for off gassing.



**Kelsey Perrigo [Lander, WY]:** *We have a large collection of rolled archival documents, mostly early 1900s, that I was tasked with accessioning. They are dusty and have water damage, and have been stored in a very low RH environment. We will be storing them rolled since we cannot afford a conservator, but what is the best way to store them? I have selected textile boxes, but not all of them are long enough. Store rolled on a tube or rolled with a Mylar<sup>®</sup> cover.*

**Dan VanDeSteege [Grand Rapids, MI]:** *I missed everything about buffered materials. If there is time could this be repeated at the end?*

Basically, buffered material can cause damage to the image in blueprints, diazo prints and other photographic materials, if there is some transfer of the buffering material to the print. This can happen in high humidity storage environments. Therefore, some conservators recommend avoiding buffered enclosures for blueprints.

**Julia Welby [Sleepy Hollow, NY]:** *Do you have any reading suggestions/guides for making large flat file folders when you need to use two sheets to make a folder big enough? I line up the two pieces of folder stock, put a weight on so they don't shift, cut a large gummed linen piece of tape, crease it in the middle horizontally, take a sponge and apply moisture to the gummed adhesive, apply half of the tape to the top folder, then lift up and wrap it around the other side, bone and weight. I do not tape the inside of the folder (our folders usually wear out before the hinge).*

There is a pictorial guide in the book **Preservation and Conservation for Libraries and Archives** by Ballofett, Hille and Reed, on pages 64-65 under the section title "hinged folder." You can view these pages on Google Books. <http://bit.ly/2nrW23P>

**Kathie Gow [Hatfield, MA]:** *Since horizontal is best way to store large docs, what's the best way to FIND them? As in, you've got a pile of oversize docs in a document box. All our docs are inventoried with numbers, but all we know is that they're somewhere in that darn box!*

Either keep inventoried numbers within a numerical order or develop a finding aid. If the documents are foldered within the box, you can write the inventory numbers on the folder.

**Lea Edgar [Vancouver, BC]:** *Can you/will you provide links to these rolling methods with detailed instructions?*

There are some different sources for these rolling methods.

- Louis Olcott Price's book has a discussion of rolled storage on pages 272-274.
- *NEDCC Preservation 4.9 Storage Solutions for Oversized Paper Artifacts* <http://bit.ly/2nFyKZf> discusses rolled storage, including this method which we shared on slide 38 "Rolled Polyester Folder."
- Another project which rolled documents onto Mylar<sup>®</sup> tubes, and then covered the outside with additional Mylar<sup>®</sup> (at the Library of Congress) is described briefly here: <https://www.loc.gov/preservation/about/conserv/storage/rolled.html>
- Yet another method is described in "Pennywise Preservation" for the Smithsonian, here: <https://siarchives.si.edu/blog/pennywise-preservation-housing-oversized-drawings>

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- The Alexander Architectural Archives at the University of Texas-Austin provides this description of a project they did to construct “cubbies” for oversized, rolled architectural drawings. [https://www.lib.utexas.edu/sites/default/files/apl/aaa\\_pdfs/ut\\_cubby.pdf](https://www.lib.utexas.edu/sites/default/files/apl/aaa_pdfs/ut_cubby.pdf)

**Sue Donovan [Charlottesville, VA]:** *Is there a worry about an acidic environment if you store an inner tube inside an outer tube?*

Yes, if the tubes are acidic. You would want to at least provide a barrier between the item and any acidic tube (inner or outer).

**Catherine Wright [Richmond, VA]:** *We’ve had problems before when using double-sided tape in encapsulating documents, as sometimes if our photo/document came into contact with the edge of the tape, there was adhesive that stuck to our items.*

Yes, that can be a problem. It’s best to use a heat welder or ultrasonic welder, or simply to use Mylar® that is folded. However, if you do not have a polyester welder available to you, and your item is too large for a Mylar® folder, what Ana-Elisa suggests (place a piece of linen thread next to double sided tape to create a no contact zone) is a good “hack.”

**Ana-Elisa Arredondo [Tucson, AZ]:** *FYI at NPS I was instructed to place a thread of linen next to double sided tape to create a buffer between paper/tape.*

**Liz Coelho [MD]:** *What was the software used for controlling the camera. Didn’t catch that.*

Thanks. I’ve used Lightroom and Control My Nikon software. This link should be helpful in choosing the right software: <https://www.tethertools.com/tethering-software/>

**Lea Edgar [Vancouver, BC]:** *Obviously most of us won’t have the facilities to do large format reproductions; do you have specific trusted companies you can suggest?*

I would start with the best trusted photo digitization vendor in your own town. Many photography stores have turned to digitizing as a means of keeping their business going. We direct people to the Camera Company, at the current time, in Madison, as an example. But, you should investigate locally and see if you are comfortable with a local vendor and if you think they can handle your material correctly (or maybe they will let you stay while they digitize). Or look into a copy stand and digital camera set up for shooting oversized materials from above, as Dave discussed—it may not be any more expensive than using a vendor (and shipping oversized archival materials, in particular, to a national vendor is likely to be very expensive.)

**Jess Miller-Camp [Riverside, CA]:** *Just want to remind everyone that when dealing with very large things like this, you want to remove the distortion from photographs during post-processing. Photoshop and similar programs already have settings to do this.*

Jess, my recommendation in the presentation includes a “flat-field” micro/macro lens. I use a 60mm flat-field lens from Nikon. Perspective distortion is almost non-existent. This is an important feature and can save time sent otherwise correcting distortion using software.

**Jess Miller-Camp [Riverside, CA]:** *Yes, but there are others. For scanners, you won’t need to do it. Photo stands you will.*

**Gilbert Taylor [Rockland, ME]:** *There are some programs that will stitch together for in post processing fyi*

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**HELEN WIRKA [Madison, WI]:** @WHS I work at the Dane County Historical Society in the City of Madison. If there are oversize items in our collection that we need to copy or scan using an oversize flatbed digital scanner, could we or other local historical societies contact you to borrow your equipment?

We can't lend out the equipment, but would be willing to scan for you at cost. Or you can try the Camera Company. You should also contact Dorothea Salo at the University of Wisconsin Information school for borrowing other types of scanning material for digital and a/v formats (but not oversize paper, unfortunately). See this link <https://radd.dsalo.info/wp-content/uploads/2017/03/PROUDPRAVDAposter.pdf>

**Matthew Peej [Raleigh, North Carolina]:** When I was working at a county archives, we used a local reprographics shop to print TIFF scans at 600 dpi of 26 x 56 engineering drawings. Cost us about \$42 for 119 reference copies, greyscale

**Karen Livsey [Jamestown New York]:** What software do you recommend for stitching scans together?

I would recommend using **Photoshop** for stitching scans together. **PTGui** is another software solution that I've used that works quite well.

**Frank Lopez [Palm Springs CA]:** What's the best practice when moving into a new facility with flat file cabinets and materials? Cabinets cannot be moved horizontally (to wide) so we will have to unload each drawer. What do you recommend that the materials be moved?

**Can you move the material in folders on flatbeds? Or use a cart with a curve built in, like this one, from Duke University:** <http://blogs.library.duke.edu/preservation/2016/10/07/got-something-big-move-grab-u-boat/>

**Margaret Monti [Long Beach, CA]:** How many map folders do you recommend per drawer in a map cabinet?

**It depends on the size and thickness of the maps and how deep your drawer is, and how many maps you have in each but I would consider putting 5-10 map folders in a drawer. You want to be able to comfortably look through to find and take out the folder you want to access, later on.**

**Anthony Roth [Butte, Mt]:** Photoshop is a great tool for digital restoration, however, when dealing with larger digital documents (most of our maps are larger than 30" x 40") you will need to run a lot of RAM. I upgraded to 20 GB of RAM due to software speed issues running 16 GB of RAM.

**Nancy Jenner [Sacramento]:** Along similar lines to Margaret's question...do you recommend putting more than one document in an oversized folder (in a flat file drawer)?

**In the past, staff have economized and put several "related" large documents inside folders. My preference is one document per folder, but am I being unrealistic? It depends on your resources. At the Wisconsin Historical Society, due to the sheer size of our collections, it would be unrealistic to only have one document per folder. I would limit it to 10 per folder.**

**Ana-Elisa Arredondo [Tucson, AZ]:** Is there a shelf life for deacidification spray?

Yes there are shelf lives on deacidification spray and it varies by brand. **Wei-to®** aerosol spray has a thirty day shelf life.

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**Kandice Harris [Ogden Utah]:** *Do you clean each document as it comes in? Or only if it's really dirty?*

**We clean only really dirty documents.**

**HELEN WIRKA [Madison, WI]:** *What is the latest school of thought on gloves and paper handling? White cotton gloves with everything? White cotton gloves with some things? Blue nitrile gloves? Bare hands?*

**The current school of thought is preference, as gloves can be destructive as well as protective. They can make you more clumsy as you handle documents, and even nitrile gloves can leave a latent print on paper.**

**Gilbert Taylor [Rockland, ME]:** *You can tear the paper with gloves, clean bare hands?*

**YES**

**Terry Marsh [Damariscotta ME]:** *Can spray deacidification result in a spotty look or a spray painted pattern?*

**Yes, spray deacidification can cause spotting and discoloration.**

**Helen Taylor [Lansing, Michigan]:** *Nested Plastic garbage cans can work for humidification.*

**Terry Marsh [Damariscotta ME]:** *Try a large garbage can with a lid, with a smaller plastic canister inside...*

**A note of warning with container method humidification, prolonged and unchecked humidification can result in mold growth. See this park service Conserv O Gram for methods of humidification: <https://www.nps.gov/museum/publications/conservo-gram/13-02.pdf>**

**Marnie Boyers [ABILENE, TX]:** *What purpose does humidification serve for the document?*

**Humidification relaxes the paper and help allows the flattening process to override the curls, bends, folds, etc.**

**Katie Kirby [Three Lakes, WI]:** *Can the tote with warm water technique be used with photos with emulsions?*

**We've had experience with "modern" prints and negatives in a humidification process. Be very careful with old prints and negatives. Some older emulsion use binders that will not hold up to this moistening. Also warm water can cause condensation. I would stick to a normal temperature.**

**Stephanie Gilmore [Golden, CO]:** *There is a commercially sold document mending tape that is very thin and adhesive. Is that not recommended?*

**Stephanie Gilmore [Golden, CO]:** *My institution's collection has a lot of torn maps and drawings. Should we hold off from mending with that commercial tape until we have the time and means to use the Japanese paper method with the wheat/rice starch paste?*

**Archival repair tape or document mending tape isn't really archival in the end, as the adhesive will cause some damage and discoloration over time, conservators think. It's better to use one of the methods described here, if you are able to—but it depends on your needs and the context of your institution. See also: <https://www.nedcc.org/free-resources/preservation-leaflets/7.-conservation-procedures/7.3-repairing-paper-artifacts>**

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**Rhea Evers [Penzance, Cornwall]:** *@Stephanie - I wouldn't use any kind of tape on your documents. I'm not sure that this tape is that you are talking about, but it doesn't sounds reversible whereas the wheat /rice starch and Japanese tissue is.*

**Berlin Loa [San Luis Obispo, CA]:** *Does your processor intellectually organize arch collections by project? Or does it depend on the collections?*

**Organised by project (using project number/client name) within an architect's collection.**

**Lynn Elia [Hilo, HI]:** *What is iron gall?*

**Iron gall ink (also known as iron gall nut ink, oak gall ink, and common ink) is a purple-black or brown-black ink made from iron salts and tannic acids from vegetable sources. It corrodes, and eats away at the paper it is on, because of the iron content, essentially. It is one of the most common types of writing ink you will encounter before the 1920s.**

**Anthony Roth [Butte, Mt]:** *What is the best way to re-attach geographic contour lines onto a Mylar® back?*

**The material for the contour lines is a mid to late 60's vinyl material. We are not sure! Will you ask again on the C2C Care forum—I think this is best answered by an objects conservator.**

**Megan MacCall [Philadelphia, PA]:** *What are best practices for storing oversize materials in flat files? Ex: What if you have various sized materials in one drawer? Should materials be stored in folders the size of the drawer or the documents? What's the best way to pull out maps/materials from flat files?*

**Materials should be stored in folders that are the size of the drawer. That being said, large drawers can contain sectioned areas for smaller folder sizes that correlate to smaller sized collections. To remove folders from a drawer, remove any materials stored on top of the folder to the top of the map case, then remove the folder you need and replace the other folders back. So not slide out or slip in folders as it can cause damage to the contents, Also a large flat board or support structure can be used to handle very large maps.**

**Linda Whitaker [Tempe]:** *Field Appraisal for arch drawings: Take it all? Sample?*

**Good question Linda. There are several key considerations to how you approach the contents of a potential collection. The donation agreement should be discussed before the Field Appraisal if possible. If the agreement reached could allow for some culling once the materials change hands, the decision about what to take becomes less critical. If the donor wants materials not kept in the collection to be returned, and they are quite distant from the institution receiving the collection, then the appraisal might be more critical. There are certainly instances when an initial appraisal involves no expectation of physical transfer but is used to collect information about the architect, drawings and/or extent of the collection.**

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**Kylie Pine [Salem, Oregon]:** *You used the term “Re-formatting” early on in the discussion. I am not familiar with this term. Could you please define?*

Reformatting means copying the original onto another medium: most commonly for maps or architectural drawings this means making some sort of digital image or another print.

**Matthew Peej [Raleigh, North Carolina]:** *Do you treat manufacturing drawings different than architectural/engineering drawings intellectually?*

Matthew, I'm not sure I know what you mean by “manufacturing” drawings. We treat “working” drawings that are created by an architect to detail work to be done by contractors the same as we do elevation, perspective or engineering drawings.

**HELEN WIRKA [Madison, WI]:** *What have you found to be the most effective way to combat silverfish in your storage areas?*

Low humidity is key for preventing silverfish. Good integrated pest management practices also are important. See [www.museumpests.net](http://www.museumpests.net) for an overview.

**Donna Kelly [Raleigh, NC]:** *I saw a cart with a cloth stretched across it in one of the slides. It is used for transporting oversized materials. I have tried to find one in various catalogs but have not been successful. Can you tell me which company has those?*

- Gaylord has a Gryphon Concave Map Cart <http://bit.ly/2nTG59B>.
- Cornell University had a custom-built transport cart that safely supports 36” x 48” folders custom truck done by G.S. Manufacturing in Canada.

**Sally Dickinson [Hartford, CT]:** *We have many maps that were issued folded in a cover. They are now stored in flat files, opened, but with the cover still intact. It seems that the covers could damage other maps in the drawers. What is a good way to store this type of map?*

Either folder it, store the items as books on a shelf, or make some sort of enclosure to protect other documents. You might also consider removing the covers and housing them separately.

**Katie Kirby [Three Lakes, WI]:** *Best way to flatten oversize photographs like panoramas?*

You will want to humidify the panorama and then flattened between blotters under Plexiglas sheet with weights. Since photographs are hydroscopic, they need to remain drying under weight at least five day.

**Kylie Pine [Salem, Oregon]:** *When dealing with large textiles, we have talked about using rolled storage and then suspending the rolls in a rack. Are there any redflags related to “hanging” a tube with a rolled document?*

No

**Jess Miller-Camp [Riverside, CA]:** *If you're in an earthquake-prone area, hanging is a bad idea period. Otherwise, I don't know, Kylie.*

**Nora Ligorano [Brooklyn NY]:** *Just to be clear, acid free glassine is not recommended for interleaving maps and documents?*

Different conservators might have different opinions, but our conservation department does not use it or recommend it. We believe that the qualities which make it translucent also render it not archival, in the long run.

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**Karen Emmons [Charleston, SC]:** *I have about 20 oversized photo-layouts and makeshift maps all mounted on something similar to mat board. Can't roll them and too large for the flat file cabinets. Any suggestions for storage?*

**You might consider making a Coroplast® folder that protects and supports the oversized items and place on a cabinet top.**

**Andree Miller [Audubon]:** *I am planning for a new museum. We have a collection of oversized prints currently stored in flat boxes. Any advice on how to estimate how many flat files we will need to purchase?*

**Count one box as a sample. Estimate the number of maps in one box times the number of boxes. Then, determine how many maps you will put in a folder and then, how many folders you wish to put in each drawer and you should have a rough estimate. (I'd estimate maybe 25-30 maps per drawer, to be on the safe side, if you will house multiple maps within one folder).**

**Hattie Phillips [Albert Lea, MN]:** *Could you recommend a good way to care for/preserve hand painted (probably enamel/oil paint), oversized, on plywood- maps?*

**Iglika Avramova [Quebec]:** *You mentioned that you are generally ok with buffered enclosures for architectural records, do you therefore recommend it, as it will counteract the negative effects of acidity possibly inherent to the paper substrate?*

**Yes. But other conservators might recommend against it.**

**Samantha Bruer [Houston, Texas]:** *For architectural projects that contain several hundred sheets in one set, do you have a system for keeping order while foldering the items?*

**Number the set on the verso.**

**Hattie Phillips [Albert Lea, MN]:** *Could you recommend a good way to care for/preserve hand painted (probably enamel/oil paint), oversized, on plywood- maps?*

**Panels are made of wood and wood tends to absorb the moisture or lack of moisture in its surrounding. Therefore, be careful when storing your artworks on panel. It is best, as with all artworks, to store them in a temperature controlled environment. Make sure not to store them in a location like a garage where temperature changes fluctuate drastically. Also, it is best to store artworks on panel laying flat, in a frame or hung on the wall. If a panel is left leaning against a wall, gravity will pull against the center and can cause a twist or warp in the wood. By storing the panels flat or on the wall, any pressure from gravity is more evenly distributed across the panel helping to prevent warping. If this happens to one of your flat panels, lay it flat for several days weighted down and in a controlled temperature and it should snap back to its original shape.**

**Answers by Dave Erikson and Robin Carlson**

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